the presence or absence of pubescence. And furthermore, throughout the island the black spruce is attacked by a species of *Peridermium*, which forms large compact witches' brooms that are very conspicuous on account of their pale yellow color, and yet the white spruce is never affected by the fungus. Why the fungous parasite should discriminate between two host species resembling each other so closely in every prominent character, while the spermophytic parasite does not, seems a curious matter, beyond explanation.

PURDUE UNIVERSITY.

ABNORMAL FLOWERS IN LEONURUS CARDIACA.

C. H. BISSELL.

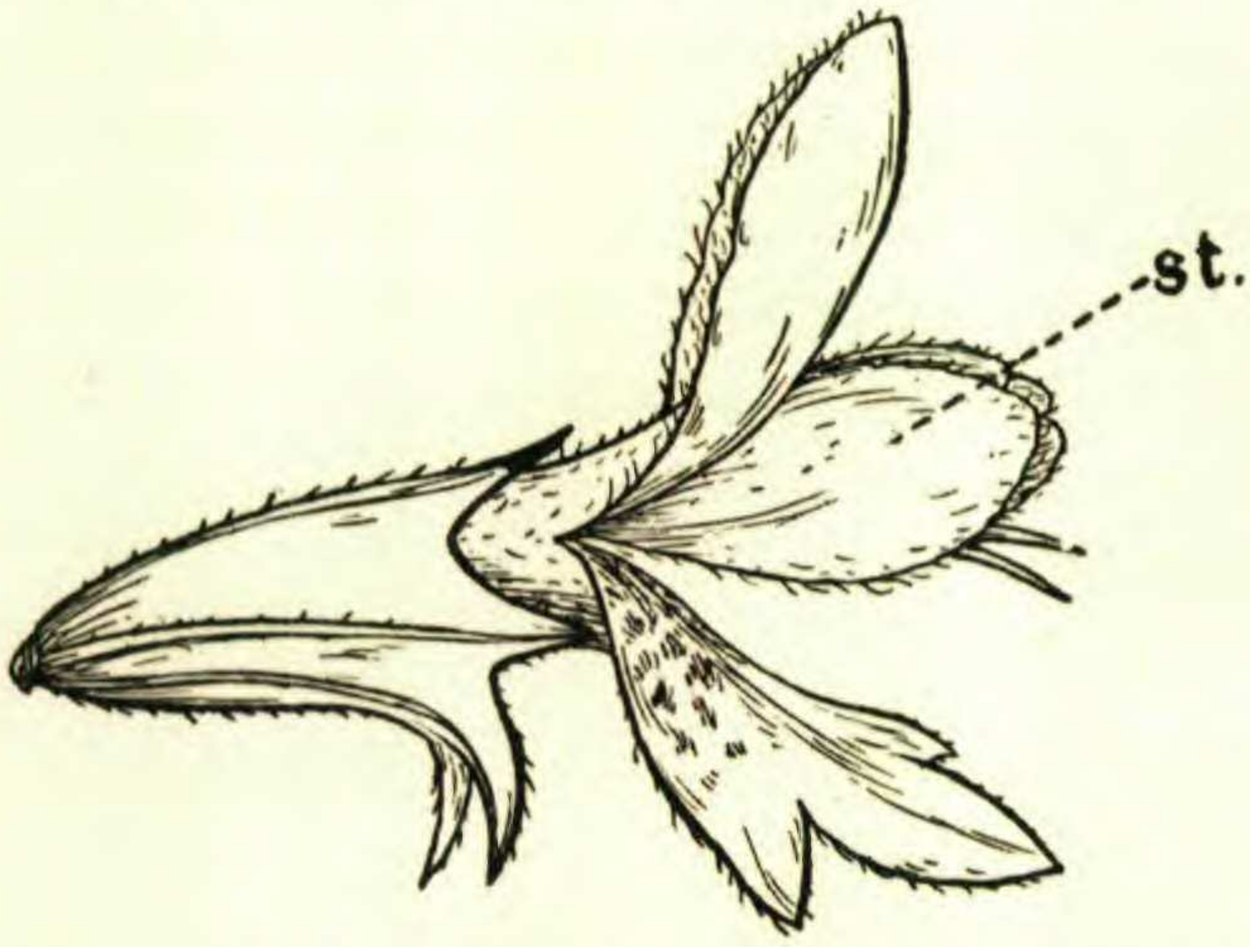
LAST summer, in looking over a colony of the common "Motherwort," growing by the roadside, I noticed several plants of unusual appearance. Examination showed that the peculiar aspect of these plants was due to a variation in the flowers, and that these presented an interesting transformation by which the stamens are changed to leaves (phyllody) and the corolla becomes less irregular (peloria). Both the form and color of the corolla were abnormal. In place of the usual arched upper lip, capped by a conspicuous tuft of white wool, was a shorter, entire, somewhat lanceolate lobe. The lower lip was also smaller than usual and provided with pointed lateral lobes. The color was paler than usual and had a greenish tint. The most conspicuous variation, however, was in the anthers, these being changed into leaf-like, green appendages.

In looking up the literature of this species with special reference to its teratology, I find several anomalies described, but none which exactly covers this case. For instance, Freyhold[1] states that small leafy tufts are sometimes formed between the calyx and corolla in this species, although he does not record a change in the stamens. A case of peloria in *L. Cardiaca*, L., has been described by J. Peyritsch,[2] and illustrated by plate. His figures show a calyx with six unequal teeth, a corolla with six short, rounded equal lobes and six stamens with perfect anthers. Peloria is shown only in the upper flowers of his plant, the lower being of the usual form.

[1] Freyhold, Beiträge zur Pelorienkunde, 3–14; Strasburg, 1875.

[2] Denkschr. der k. k. Acad. der Wissensch. (Mathem. Cl.) xxxviii. Abt. 2, 134–148, t. 5; Vienna, 1878.

Our plant differs in many ways from this. The calyx is normal, and the corolla, although much modified, is still two-lipped, while, as stated, the most important variation is in the anthers. Furthermore, no flowers of the normal form were found on the same plants. Masters,[1] in treating of phyllody, states that this occurs less frequently in the stamens than in the neighboring organs; that sometimes the whole stamen is affected, at other times only a part; that the change of the anther from its ordinary condition to that of a leaf, indicates a great degree of perverted development. He gives a list of species in which phyllody of the stamens has been noted, but does not mention any species of the order *Labiatae*.



In all the flowers of our plant the anthers are changed to leaves, varying somewhat in form, and in some cases the leafy growth extends downward on the filament. The style and stigma of these flowers seemed normal and perfect, but were, so far as observed, abortive, and did not produce seed, although surrounded by an abundance of flowers with perfect anthers. Unfortunately, notes as to this point were not as extended as desired, owing to the untimely mowing off of the colony under observation.

The accompanying figure of one of the flowers is from a drawing kindly prepared by Mr. Charles E. Faxon. The modified stamens are shown at *st*.

SOUTHINGTON, CONNECTICUT.

AUTUMNAL FLOWERING OF VACCINIUM PENNSYLVANICUM. — It was an interesting experience in the middle of September to find in a deserted overgrown timber-road near Westford, Massachusetts, a quantity of the early low blueberry, *Vaccinium pennsylvanicum*, covered with blossoms. The unusual effect of the buds and blossoms, among the old leaves, suggested the southern evergreen species, *Vaccinium for-*

[1] Vegetable Teratology, 253–256.